California Regional Water Quality Control Board
San Diego Region

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Secretary for Environmental Protection

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August 10, 2001 **FILE NO.: 06-0024.02**

Mr. Richard Chase
Gregory Canyon Ltd.
c/o Taconic Resources
212 North Cedros Avenue
Solana Beach, California 92075

Dear Mr. Chase:

RE: JOINT TECHNICAL DOCUMENT FOR GREGORY CANYON LANDFILL DATED JULY 2001

The purpose of this letter is to acknowledge receipt of the Joint Technical Document (JTD) by the California Regional Water Quality Control Board, San Diego Region *("Regional Board"*) on July 12, 2001. The current JTD supersedes the previous document submitted to the Regional Board on January 11, 2001. This JTD includes: a) written responses to comments made in our letter dated February 9, 2001 and b) a proposal to include a prescriptive waste management unit (WMU) which replaces the engineered alternative proposed in the January 11, 2001 version of the JTD. Therefore, we have reviewed the current JTD based on the prescriptive landfill design to determine whether or not our previous concerns have been adequately addressed.

Based upon our review the Regional Board has determined the current JTD is incomplete. It appears that the evaluation and analyses provided in the referenced sections have not been adequately revised/updated to accommodate the revised (prescriptive) design as proposed and described in text of the JTD. Appendices G - *Geotechnical Investigation*; J - *Settlement Analysis*; and N- Hydrologic Investigation, all contain a disclaimer on the first page. The language in the disclaimer and our review indicate that the current JTD fails to provide an adequate technical evaluation, analyses, and conclusions that are specific to the proposed prescriptive design of the landfill.

In order for the Regional Board to develop waste discharge requirements (WDRs) for the proposed landfill, the technical analyses and conclusions included in the JTD need to be complete and specific to the actual proposed design of the waste management unit.

General Comments

1. *C.2.4 Liner System Design, Page C.2-6, 27 CCR §20330.*

Performance standards required for waste management units are specified in 27 CCR, §20310. Class III landfills must meet the following performance standards:

> *"… shall have containment structures which are capable of preventing degradation of waters of the state as a result of waste discharges to the landfills if site characteristics are inadequate."*

The Regional Board remains concerned that the proposed Gregory Canyon waste management unit (WMU) is located in proximity to sensitive existing beneficial uses of groundwater and surface water. It is not clear that the required performance objective *"to prevent degradation of waters of the state"* will be achieved considering the site characteristics and using the proposed liner system design (single composite liner) proposed in the JTD.

Our concerns are based upon a number of site-specific factors, including:

a.) The proximity of the proposed location for the WMU to the sensitive surface waters. The terminus of Gregory Canyon is located in proximity to the floodplain for the San Luis Rey River.

b.) The proposed location of the WMU is in an area underlain by fractured igneous and metamorphic bedrock forming a "fractured-rock aquifer." Fractured-rock aquifers generally provide little protection for water quality from waste constituents released from a WMU. Fractured-rock aquifers generally are not expected to provide effective *"filtration"* function that may be associated with fine-grained alluvial sediments/formations.

c.) The discussion provided in the JTD (Sections D.4.2.1 and D.4.2.2 and Appendix N) acknowledges that *"discontinuities"* (fractures, joints, *etc*.) exist within the bedrock unit at the site. The discontinuities/fractures are likely to act as preferential pathways for groundwater flow and potentially for pollutant migration beneath the proposed WMU.

d.) It is not clear how a release of waste constituents into the groundwater associated with the fractured-rock aquifer may affect beneficial uses of surface water located within the San Luis Rey River watershed.

e.) The JTD identifies a number of groundwater production wells (see Figure 1: Appendix N and discussion D.5.6 with Table 12D). These wells presumably support ongoing domestic and agricultural beneficial uses of groundwater, are located in the area(s) adjacent to the proposed Gregory Canyon Landfill facility. Significant information on the quantities of water produced, well construction details, and capture zones generated by operation of the listed wells have either not been verified or are not reported in the JTD.

In view of the sensitive actual and potential beneficial uses of groundwater and surface water located in proximity to the proposed WMU, it is essential to for the waste containment system to effectively contain the wastes. Single composite liners are subject to construction defects that may significantly reduce the level of protection for groundwater resources. The use of an appropriately designed double composite liner system could help prevent such problems. An appropriately designed and constructed double composite liner system could provide the following significant benefits for the long-term protection of local groundwater quality:

a.) additional level of long-term protection for water quality associated with the double composite liner system,

b.) a significantly reduced leak rate for waste constituents over the single composite liner systems, and

c.) a method whereby leachate and/or waste constituents that migrate through the top liner could be effectively collected from the double composite liner system before those constituents can migrate out of the WMU to create a condition of pollution in the underlying groundwater.

In view of these considerations and the need to provide effective long-term protection of groundwater resources, the Regional Board concludes that the JTD must be revised to include double composite liner system design.

2. *Jurisdiction on Wetlands Issues.*

Gregory Canyon Ltd. (the *"discharger"*) should make a written request to the Army Corps for a determination regarding the status of *"jurisdictional waters of the United States"*, reportedly located in the bottom of the proposed Gregory Canyon Landfill. If these *"jurisdictional waters of the United States"* are classified as *"wetlands"* by the Army Corps, will they include those *"waters"* within the scope of any permit developed pursuant to the authority of Section 404 CWA for the proposed Gregory Canyon Landfill? The Regional

Board requests the discharger send a copy of their written request and the written determination by the Army Corps to the California Regional Water Quality Control Board – San Diego Region (Attention: John Odermatt, Land Discharge Unit). This information will assist all the parties associated with this project by helping to clarify the scope and status of wetland issues, and identify the appropriate regulatory jurisdiction over those resources located at/near the project area.

Any additional information and/or technical reports necessary for the Regional Board to develop waste discharge requirements, for compliance with Federal wetland protection requirements (Subtitle D: see 40 CFR §258.12), will need to be completed prior to promulgation of waste discharge requirements. As noted in our earlier letter (dated April 5, 2001), this may require Gregory Canyon Ltd. to develop an acceptable addendum to the Final Environmental Impact Report (EIR).

3. *Compliance with Subtitle D.*

The Regional Board must be able to determine if the proposed design and operations are likely to comply with existing federal requirements found in Title 40, Code of Federal Regulations (CFR) Part 258 *(40 CFR Part 258 or "Subtitle D").* We have identified those areas where additional information is required for the Regional Board to better evaluate compliance with existing federal requirements.

Specific Comments

For ease of your review, the comments below refer to the specific comment section of our February 9, 2001 letter (*e.g.*, Comment#1, etc.):

1. Comment #1, Paragraphs 2 & 3, **27 CCR §20080 (b – c) General Requirements [engineered alternatives to prescriptive standards]**

Paragraph 2: Fig.4 Appendix G-3, Results of Slope Stability Analysis Prescriptive Design, dated May 2001 shows a pseudo-static factor of safety (FS) of 1.009, for landfill Section A-A'. A slope designed using a Factor of Safety (FS) of 1.009 would normally be considered marginally safe. A pseudo-static factor of safety of 1.1 to 1.2 is typically accepted as indicative of adequate seismic stability. Are these analytical results intended to imply that there might be a lack of permanent deformation of landfill components associated with the Maximum Probable Earthquake (MPE)?

While Figure 4 above indicates a pseudo-static FS of 1.009 for Section A-A', "Results of Slope Stability Analysis Prescriptive Design…May 22, 2001" indicates a pseudo-static FS of 0.85. Please ensure that the next version of the JTD contains a consistent FS for the slope stability analysis.

If possible, the slope stability report should contain a diagram of the liner design (see previous analyses, Sect. X-X', Fig. 12) incorporated in the analyses and a discussion of material strengths, interface strengths, and location of the most critical surface and other failure planes if appropriate.

What are the interface strength parameters used for the HDPE geomembrane/low permeability soils?

The table in the current stability analysis report describing parameters used in the analyses shows two layers of HDPE/Geotextile while the liner description apparently includes only one layer. Are both layers used in the analyses and/or in the liner design?

The May, 2001 slope stability report should include printouts of computer analyses indicating material strengths and derived factors of safety as did the stability report in the previous version of the JTD.

It does not appear that a toe berm buttress is used to support landfill waste based on the cross-section in Figure 4, although a toe berm is indicated on the plan view for cross -section A-A and is discussed in the JTD as part of the design.

How does the landfill configuration used for the most recent pseudo-static analyses (cross-section A-A') differ from that used in 1998 by H. Ferriz (cross-sections X-X' and Y-Y')? Is the base grade configuration the only difference?

The previous analyses (H. Ferriz) included 3-D analyses titled "small and Large Buttress." What do these analyses represent? Are they stability analyses for a toe berm? Has the toe berm been re-analyzed for the prescriptive design alternative?

Dynamic stability analyses, for cross-section A-A, result in permanent deformation of 9 inches. According to the current stability report, 6 to 12 inches of permanent deformation of landfill slopes is commonly acceptable per work of Seed and Bonaparte, 1992. Actually, the cited paper does propose that more than 6 inches of permanent deformation is acceptable, but only by two of the five firms surveyed and **only under overly conservative conditions**. For example, where a magnitude of 7 is used for analytical purposes when the derived design earthquake is a magnitude 6. The State Water Resources Control Board consultant

contracted for slope stability report review (Department of Water Resources) recommends against permanent deformation of more than 6 inches for landfill slopes based on results of Seed and Bonaparte, (1992) (see October 5, 2000 letter from Mike Driller, attached). See discussion on page 10 of *"Review Comments"*, dated February 2, 2001.

In the current stability report (cross-section A-A), strength parameters for a *"Smooth HDPE/Geotextile"* are listed as friction angle 8 degrees and cohesion 0 psf. And for a "Textured HDPE/Geotextile the numbers are friction angle 14 degrees and cohesion 0 psf. Do these numbers represent interface strengths? Is the *"Smooth HDPE/Geotextile"* configuration used in a liner or cover design or other application at Gregory Canyon? Is the difference in friction angle for these materials attributable to the *"Textured"* versus *"Smooth"* surface of the HDPE only? Does the textured surface of the FML constitute part of the interface between the two materials for either of the two liner configurations? Is the FML textured on both sides, as is the case with the FML used for the engineered alternative?

What Division of Mines and Geology source is referenced to determine the peak horizontal accelerations used in evaluating the seismic hazard (see Appendix G-2)? Some of the references provided in the JTD are out-of-date.

Paragraph 3, The statement above refers to Appendix Q of the *"Technical Memorandum – Engineered Alternative Liner…."* Figure 2 shows cross-sections X-X' and Y-Y" used for analyses performed in 1998/1999. Since the engineered alternative liner has been eliminated the above cross-section should no longer be applicable.

2. Comment #1, Paragraph 4, **27 CCR §20080 (b – c) General Requirements [engineered alternatives to prescriptive standards]**

   What are the plans for capturing, monitoring, and discharging any water collected by the subdrain system?

3. Comment #5b, **27 CCR §20260 Class III: Landfills for Nonhazardous Solid Waste**

   The JTD includes a statement that there are no seasonal fluctuations of local of ground water elevations, based on less than one year of data. We believe that at least one- year of data collection will be required before any conclusions regarding the ground water table can be made. In addition, based on our experience, after a couple of wet years (*e.g.* El Niño) ground water levels could rise as much as 10 to 20 feet in fractured bedrock. It might be beneficial to examine data from other fractured bedrock aquifers, located in similar environmental

conditions, to determine the impact of the recent El Niño weather pattern upon ground water elevations.

4. Comment #5, Paragraph 2, **27 CCR §20260 Class III: Landfills for Nonhazardous Solid Waste**

   Section C.2.2.4 does not contain adequate data necessary for a review of proposed plans for excavation and stockpiling of material at the site. For example, at a minimum, kinematic analysis of slopes in cut areas and stability analyses for stockpiled materials including location of cross-sections used, material strength parameters, and copies of analytical results indicating factors of safety should be submitted as part of the JTD. It is uncertain whether or not the stockpiles described in the JTD are for the engineered alternative or the prescriptive standard landfill design.

5. Comment #7a, **27 CCR §20323 and §20324 CQA Plan & Requirements**

   The response to the JTD did not include a detailed description of training and experience for work crew. This information needs to be provided in the next JTD.

6. Comment #8, Paragraph 1a, **27 CCR §20340 Leachate Collection and Removal Systems**

   The response to comments did not fully support the use of the 20- year model *versus* the 30-year model for the expected amount of leachate to be generated at the Gregory Canyon Landfill during the post-closure maintenance period. We recommend that the model be calibrated with leachate generation rates from an existing landfill and run for the 30-year post-closure maintenance period. Please ensure that results from each year are provided.

7. Comment #10, **27 CCR §20405 Monitoring Points and the Point of Compliance**

   Table 2: What is distinction between those wells listed as piezometers *versus* those listed as detection monitoring wells?

   Appendix N, Page 36 Configuration of the Water Table and Section B.5 Disposal Site Controls. A distinction is made between an alluvial aquifer and a fractured-rock aquifer. Would a release from the landfill be expected to be present/detected at the downgradient edge of the landfill in the alluvial aquifer or the fractured-rock aquifer, or both? Please clearly identify the downgradient groundwater monitoring wells proposed for the detection monitoring program are designed to monitor the alluvial aquifer and which wells are designed to monitor the fractured-rock aquifer?

B.5.1.3 Groundwater Monitoring System, B.5.1.3.1 Groundwater Monitoring Well Locations, and Appendix N Hydrologic Investigation. The proposed downgradient groundwater monitoring wells include GLA-2, GLA-10, GLA-12, GLA-13, and GLA-14. It is not clear that these wells have been designed and installed at the appropriate locations and depths to provide the best assurance of the earliest possible detection of a release from the Unit in accordance with 27CCR §20415(b)(1)(B). The JTD does not contain a clear discussion of how the *"groundwater monitoring system"* has been designed based on the results of the hydrologic investigation presented in Appendix N. In addition, some of the wells have excessively long open intervals that may result in cross contamination between zones of the aquifer(s). Specifically:

a. Wells GLA-2, GLA-10, SLRMWD #34[1], and proposed wells GLA-17 and GLA-18 have approximately 100 to 200 or more feet of open interval. Are these wells intended to monitor the fractured bedrock aquifer? Can a shorter screened interval be used to effectively monitor for a potential release while, at the same time, minimize the likelihood of cross contamination between zones of the aquifer?

b. 27CCR §20415(b)(4) Monitoring Well Performance Standards requires that the wells be cased and constructed in a manner that prevents the borehole from acting as a conduit for contaminant transport. However Wells GLA-2 and GLA-10 have 240 feet and 100 feet, respectively, of open, uncased borehole which may act as a conduit for contaminants. Please evaluate each well for compliance with this requirement, while considering how to provide the best assurance of the earliest possible detection of a release.

c. 27CCR §20415(b)(4)(C) requires that the annular space, between the borehole and well casing above and below the sampling interval, be appropriately sealed to prevent entry of contaminants from: 1) the ground surface, entry of contaminants from the unsaturated zone, and 2) cross contamination between portions of the zone of saturation. Please evaluate each monitoring well with respect to these requirements and provide construction and grouting details to confirm compliance.

d. Most or all of these wells have conductor casing. Please provide details regarding the conductor casing. For example, it is not clear from the boring logs whether or not this conductor casing was temporary and removed, or grouted with a minimum of two- inch annular space.

[1] SLRMWD #34 was reported as drilled to a depth of 400 feet with a screen interval of 21 to 61 feet. It is unclear if the hole has been properly grouted from 400 to 61 feet. The JTD indicates that the well construction details must be field verified.

e. Review of the spacing of the downgradient monitoring wells indicate that the horizontal distance between the "shallower wells" varies from approximately 300 feet (GLA-10 to GLA-13) to approximately 1000 feet (GLA-13 to GLA-14), to over approximately 1,800 feet (GLA-14 to GLA-16). The downgradient monitoring well horizontal spacing for wells designed to monitor the same aquifer or zone should be no greater than approximately 500 feet to provide the best assurance of the earliest possible detection of a release. A similar spacing interval should be considered for locating the wells designed to monitor the deeper aquifer. Please evaluate the well spacing for each aquifer or flow zone.

Please propose downgradient monitoring wells and associated well design details that monitor both the alluvial and fractured rock aquifers to provide the best assurance of the earliest possible detection of a release.

8. Comment #19, **27 CCR §21750(a) Analysis of potential for impairment**

The JTD contains a study to evaluate the predicted pathway for flow of groundwater pollution from the proposed Gregory Canyon Landfill waste management unit. 27CCR §21750(a) requires the JTD to include an evaluation of the following:

a. how the ground and surface water could affect the unit …

The discussion in this section of the JTD does not include an assessment of how the groundwater and surface waters could affect the waste management unit (WMU). Fluctuation of local groundwater levels that may affect the integrity of the liner system for the waste management unit is one aspect of this analysis. Evaluation of surface water impacts should include an assessment of effects from off-site drainage/run-on and storm water discharges upon the WMU. This evaluation should include potential impacts of surface waters upon the inactive cells, the current working face of the WMU, and other features (*e.g.,* soil stockpiles for cover materials, waste piles, *etc*.) that may be associated with waste disposal operations at the WMU. If the required evaluations are provided in other sections of the JTD, the text in this section should be revised to direct the reader to the appropriate sections of the report.

b. how the Unit, including how any waste if it escapes the Unit, could affect the beneficial uses of groundwater bodies … and surface water bodies.

The discussion provided in the JTD provides an assessment of the predicted flow path of groundwater pollutants from a "*leachate release*" (as indicated on page B-5.3 of the JTD). This section of the JTD does not include an assessment of potential water quality impairment

from migration of volatile constituents in landfill gas to water resources. The JTD must be revised to include: 1) a technical assessment of the potential for landfill gas migration, 2) the estimated timing (maturation of the WMUs) when the threat from landfill gas would be most likely to develop, and 3) the measures to be implemented to detect and mitigate adverse impacts to water quality.

The discussion in this section of the JTD does not include an assessment of how waste and/or waste constituents escaping the WMU could affect beneficial uses of surface water bodies (*e.g.,* wetlands located downgradient of the WMU, the San Luis Rey River, *etc*.). At a minimum, the analysis must include the effects of storm water run-on/run-off on migration of wastes and how a potential "wash-out" of solid wastes from the WMU could affect beneficial uses of nearby surface water bodies. The requested evaluations will help the Regional Board to better assess likely compliance with requirements specified in 40 CFR §258.27. If the required evaluations are provided in other sections of the JTD, the text in this section should be revised to direct the reader to the appropriate sections of the report.

The JTD should be revised to include an assessment of other potential sources of contamination located in proximity to the WMU and their cumulative impacts on the ground water resources located at and adjacent to the WMU. This information is necessary to comply with federal regulations (40 CFR §258.40) requiring a consideration of *"… existing quality of the ground water, including other sources of contamination and their cumulative impacts on the ground water…"* in evaluating design criteria for Municipal Solid Waste (MSW) Landfills.

9. Comment #25, **27 CCR §21750(f)(4) Engineering and Chemical Properties**

The response provided to Comment Number 25 does address part of our previous concern. However, per requirements of 27CCR §21750(f)(4)(B), the JTD should be revised to include a discussion/estimation of:

> "*the chemical and engineering properties of the waste and other layers placed, or to be placed, within the Unit."*

This should include a discussion of: a) anticipated chemical characteristics of municipal solid wastes, waste leachate, and anticipated degradation products (*e.g.,* landfill gas), and b) engineering and chemical properties of wastes and the materials that are anticipated to be used for daily/intermediate cover materials. If the required evaluations are provided in other sections of the JTD, the text in this section and the JTD index should be revised to direct the reader to the information located in other sections of the report.

10. Comment #26, **27 CCR §21750(f)(5) Stability Analysis**

Appendix G

See comments under Comments #1.

Appendix N

"Appendix N [G] A 34 degree angle of internal friction represents the lower bound…for a granitic rock, and is largely dependent on rugosity [wrinkles] of the fracture surface… The ability of rock to disaggregate easily under pressure relates to the lithification of the rock rather than being diagnostic of it's internal friction."

[Lithification – A complex of processes that convert a newly deposited sediment into an indurated rock.]

The strength of rock, for purposes of slope stability analysis, is controlled predominantly by presence of planes of weakness. The angle of internal friction derived for the strongest rock sample typically will contain the least number of planes of weakness, i.e. the sample which is most coherent structurally. Strength is more a function of the degree or intensity of fracturing rather than rugosity of fracture surfaces or lithification. If a material lacks lithification it is not rock.

11. Comment #27, **27 CCR §21750(f)(7) Fault Identification and Proximity**

Comment 28 [sic] 27 Paragraph 1…discussion of faulting and seismicity…Appendix G-2, Section D.4.4 and D.4.5…in the new JTD."

The above documents do not appear to contain updated slope stability information specific to the currently proposed prescriptive design proposal and Section A-A'.

"Paragraph 2 A discussion of the so-called "WWC 1995" fault…"

Typically, lack of Holocene activity on a suspect fault (within the proposed site boundary) would be based on proof of absence of fault movement in natural materials post-Holocene in age. It appears that the WWC fault does not extend into the Gregory Canyon site based on investigations conducted by consultants for the discharger. But even if the fault did extend onto the facility, proving that it is not active would not have solved the problem of potential Holocene fault activity. Lack of evidence indicating fault movement in pre-Holocene a material is not generally considered proof of a lack of Holocene activity.

12. Comment #29, Paragraph 3, **27 CCR §21750(h) – (h)(5) Land/Water Use**

The response states that "*Regardless, the prescriptive standard design will not result in significant dewatering, and therefore significant impacts to the adjacent groundwater , surface water and springs are not anticipated."* The use of the terms "significant dewatering" and "significant impacts" implies that there may be some dewatering and some impacts. Please clarify.

13. Comment #30, **27 CCR §21760(a)(3) – (a)(4) Design Report**

See comments above regarding B.5.1.3 Groundwater Monitoring System, B.5.1.3.1 Groundwater Monitoring Well Locations, and Appendix N Hydrologic Investigation (Item #8).

14. Comment #32, **27 CCR §22222 Financial Assurance Requirements for Corrective Action**

The discussion provided in Sections B.5.1.6.4 Groundwater, B.5.1.7, B.5.1.8, and Table 8 do not adequately address Regional Board comments associated with estimated cost for mitigation of a reasonably foreseeable release. The discussion and costs presented in the JTD appear to be for groundwater extraction and treatment only. However, in the event of a release, there are additional response actions that are necessary to establish and implement Evaluation Monitoring and Corrective Action Programs (27 CCR §20415, §20420, §20425, and §20430). The JTD does not appear to account for estimated costs for the activities associated delineating and responding to a reasonably foreseeable release. Please revise the text and Table 8 to identify the specific assumptions and associated costs for these items. Based upon our experience, the costs currently listed in Table 8 for Construction Management/Report/Regulatory Liaison are too low. Please provide the underlying assumptions and separate line items for Construction Management, Reporting, and Regulatory Liaison. Our previous comments provided an estimated range of costs for development and implementation of corrective actions. Our estimate was based upon our staff experience with development and implementation of corrective actions in the San Diego Region.

Other Comments on the Revised JTD

15. ***Add References Cited Section,***

The revised JTD must include a complete list of references cited for the information contained in and the analytical methods performed for engineering design and analysis (*e.g.*, Appendices H, I, and M).

16. ***B.5.1.3 Groundwater Monitoring System, Page B.5-6, 27 CCR§20415(e)(1).***

Reference to a *"registered engineering geologist"* should be *"registered geologist."*

17. ***B.5.1.8 Groundwater Treatment Systems, Page B.5-15.***

The third paragraph indicates that effluent (clean water) will be stored in a tank and subsequently discharged to re-injection wells. Please note that a discharge to re-injection wells would require the submittal of a Report of Waste Discharge and would be regulated by waste discharge requirements. If the discharger is going to pursue this option, we request that the Report of Waste Discharge be submitted to this office for our review.

The last sentence of the third paragraph indicates that brine would be taken to the Hale Avenue Resource Recovery Facility or a similar facility. Based on this statement, there is no guarantee that this treatment facility or similar facility will accept the brine. You will need to develop a contingency plan to ensure proper disposal/treatment of the brine and submit it with the next JTD.

18. ***C.2.8.3.5 Erosion Control Plan, Page C.2-17, 27 CCR§20365.***

The revised JTD must include more specific details concerning the anticipated implementation of best management practices (BMPs) for controlling erosion and discharge of sediments from the storm water conveyance system. At a minimum, this section must be revised to include:

a. A text description of how BMPs will be implemented and maintained at the site,

b. A tabulation of BMPs for to be implemented as part of the erosion control plan, and

c. At least one plot plan clearly indicating areas where specific BMPs will be located at the beginning of landfill operations at the site.

d.

19. ***C.2.8.3.4 Stormwater Desilting Basin, Page C.2-16 and Appendix I, 27 CCR 20330.***

The Regional Board staff compared the proposed sedimentation basin design and analysis to the best management practices (BMPs) for sedimentation basins in the *"California Stormwater Best Management Practice Handbook for Construction Activity"*, dated March 1993.

The analysis for the sedimentation basins (see Appendix I) uses settling velocities that are lower than that recommended for design of the sedimentation basin BMP (at 0.00096 ft/sec). The analysis presented in Appendix I uses settling velocities of 0.0062 ft/sec (West) and 0.00874 ft/sec (EAST). The analysis suggests that the basin designs will retain material between coarse silt and fine sand. This factor may significantly affect the ability of the sedimentation basins to meet the performance objectives of the BMP.

The discussion and analysis included in the referenced section(s) of the JTD do not indicate if the proposed design will retain 70 to 80 percent of the sediment fraction. This level of sediment retention is indicated for the design of sedimentation basins in the BMP handbook cited above. The revised JTD must be amended to include the necessary analysis and discussion of this topic. If you propose to vary from the performance criteria listed in the BMP handbook (cited above), the revised JTD must include a discussion of the economic and technical reasons why the performance criteria listed in the BMPs handbook can not be met at the site.

20. ***D.5.6 Water Usage, Page D.5-11, 27 CCR§21765(q)***

Appendix N (Figure 1) and information on Table 12D must be revised to make it possible to identify the location on Figure 1 and corresponding well owner listed in Table 12D. A legend with a number corresponding to the well owners listed on Table 12D could be used to present the requested information.

The text discussion should be revised to indicate the location of existing domestic private wells that are either likely to be or known to completed in bedrock. Given the depth of some of the wells listed on Table 12D, it seems likely that some of these wells are completed in the fractured-rock aquifer system. The text discussion must be revised to include an assessment of existing private and public wells that are known or likely to be producing water from the fractured-bedrock aquifer system.

21. ***Appendix F, Page 8, First Paragraph***

This portion of the storm water pollution prevention plan (or SWPPP) discusses the treatment and discharge of truck wash water. Will the proposed treatment system be adequate for the treatment of motor fluids washed from the vehicles?

22. ***Appendix F, Page 10, 3.0 Maps***

Figure 3. The proposed NPDES storm water discharge and monitoring points are not labeled.

23. ***Appendix F, Page 14, 5.0 List of Potential Pollutants***

The list of potential pollutants should also include oil, grease and motor fluids.

In addition, Gregory Canyon Ltd. must also submit a *"Contributions Disclosure Statement"* (see attached) filled out in accordance with the instructions.

Please note that once the Joint Technical Document is determined to be complete, Regional Board staff has 120-days to draft waste discharge requirements for consideration by the Regional Board members. Prior to adoption of waste discharge requirements, one copy of the final Environmental Impact Report and a Notice of Determination from the lead agency stating that the discharger has complied with the requirements of the California Environmental Quality Act (CEQA). In addition, thirteen copies of a summary of the Environmental Impact Report will need to be submitted to this office.

If you have any questions regarding this letter, please contact Ms. Carol Tamaki at (858) 467 – 2982 or *via* e-mail at **tamac@rb9.swrcb.ca.gov**.

Sincerely,
- - Original Signed by - -

JOHN R. ODERMATT, Senior Engineering Geologist
Land Discharge Unit

Attachments

cc: Ms. Michele Stress, Department of Environmental Health, County of San Diego

Mr. Michael Wochnick, California Integrated Waste Management Board, Sacramento

Interested Parties List